DOCUMENT RESUME

ED 275 954 CG 019 486

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TITLE Assessed Effectiveness of the Computer-Assisted Study Skills Improvement Program (CASSIP) as Reported by Program Directors.
PUB DATE Apr 86
NOTE 13p.; Paper presented at the Annual Convention of the American Psychological Association (94th, Washington, DC, August 22-26, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; Higher Education; Learning Strategies; *Program Effectiveness; Secondary Education; *Skill Development; Student Development; *Study Skills
IDENTIFIERS *Computer Assisted Study Skills Improvement Program

ABSTRACT

The Computer-Assisted Study Skills Improvement Program (CASSIP) uses interactive instruction with a computer in these areas: managing time, improving memory, taking lecture notes, reading textbooks, taking examinations, writing themes and reports, making oral reports, improving scholastic motivation, improving interpersonal relations, and improving concentration. This study surveyed by questionnaire the reactions of CASSIP directors (n=27) regarding the effectiveness of CASSIP, publicizing procedures, and hardware/software problems. Reported advantages of CASSIP were: (1) counselees could proceed at their own pace, take better notes from the computer, and review as needed; (2) the computer was not judgmental and did not forget material or digress from the subject; and (3) the computer presented material in smaller units, provided counselees with instantaneous feedback, worked unlimited hours, and could store large amounts of information. Disadvantages of CASSIP were also reported. One disadvantage was that the counselees might accept information without questioning its validity and might act on the computer's suggestions without seeking help in their evaluation. Another disadvantage was that the computer lacked human feelings such as empathy, was insensitive to counselee needs, and had limited capacity for individualized responses to counselees; it was also reported that the computer could permit too easy access to confidential files, required programming skills not usually possessed by counselors, and start-up costs could exceed resources. It appears that CASSIP's advantages, however, outweigh its disadvantages. (ABL)

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ASSESSED EFFECTIVENESS OF THE COMPUTER-ASSISTED STUDY SKILLS IMPROVEMENT PROGRAM (CASSIP) AS REPORTED BY PROGRAM DIRECTORS

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Paper presented at the Annual Meeting of the American College Personnel Association, New Orleans, LA, April 9-12, 1986.

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ASSESSED EFFECTIVENESS OF THE COMPUTER-ASSISTED STUDY SKILLS IMPROVEMENT PROGRAM (CASSIP) AS REPORTED BY PROGRAM DIRECTORS

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The Computer-Assisted Study Skills Improvement Program (CASSIP) is designed to help students develop efficient study skills and effective academic attitudes, thereby increasing their potential for scholastic success. The computer provides interactive instruction via the following ten Study Skills Modules: Managing Time (TM), Improving Memory (MI), Taking Lecture Notes (NT), Reading Textbooks (TR), Taking Examinations (ET), Writing Themes and Reports (RW), Making Oral Reports (OR), Improving Scholastic Motivation (SM), Improving Interpersonal Relations (IR), and Improving Concentration (CI). Supporting materials for the program include the Study Skills Surveys, Study Skills Notebook, Study Skills Exercises and Study Skills Test.

RESEARCH PROBLEM

As reported elsewhere (1), the program was systematically field-tested at three universities prior to publication At each university, the statistical analyses showed significant improvement in the study skills and academic attitudes of participating students. Further evaluation of the program's effectiveness and acceptability is being accomplished through a series of on-going investigations. One study has compared the effectiveness of study skills instruction using computer-presented and print-presented approaches. As previously reported (2), the research findings provided meaningful support for the conclusion that computer-based instruction is likely to be as effective and as accepted as the traditional approach using printed materials to support study skills instruction. Thus the advantages and disadvantages of computerized instruction, as perceived by the program users, must provide the basis for deciding whether or not to adopt a computer-presented program such as CASSIP.

RESEARCH OBJECTIVES

The purpose of this study was to obtain the collective opinion of those directly responsible for the utilization of CASSIP in order to identify the following: (1) hardware and software problems encountered in setting up the program, (2) approaches employed in publicizing availability of the program, (3) campus sources referring students to the program, (4) positive and negative student reactions to the program,

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(5) judged effectiveness of the ten modules comprising the program, and (6) overall assessment of program strengths and weaknesses. From such data, provided by program directors using CASSIP, a comprehensive picture of the advantages and disadvantages of computer-assisted study skills instruction should emerge.

RESEARCH PROCEDURES

MATERIAL: A four-page, three-part questionnaire was developed to ascertain reactions of the program directors to various aspects of the program. Part I of the questionnaire consisted of several questions designed to provide appropriate background information about the institution and about the on-campus utilization of CASSIP. Part II consisted of rating scales for evaluating the helpfulness of the ten Study Skills Modules and for making an overall assessment of the program's effectiveness and acceptability. Part III provided a checklist for reporting approaches used to publicize the program, space for recording positive and negative student reactions to the program, and space for listing hardware and software problems encountered in setting up the program. A copy of the questionnaire is attached to this report.

METHOD: An address list for the first 40 institutions buying CASSIP was obtained from the publisher. Five institutions on this address list were eliminated as inappropriate to the research design--2 high school programs and 3 college programs having unknown program directors--leaving 35 institutions to be mailed questionnaires. The questionnaire and a covering letter were mailed to the 35 program directors approximately 6 months after CASSIP had been shipped to their campus. The covering letter included with the questionnaire was unique in that 4 dimes were attached to the letterhead and the addressee was invited to have a cup of coffee while filling out the questionnaire. The letter also explained the purpose of the study, assured that all responses would be kept confidential, and promised that a report of the findings would be sent to all program directors. A follow-up letter (without the dimes) was sent to all project directors three weeks after the first letter was mailed. The follow-up letter, also addressed to the program director, requested that the questionnaire be returned quickly if it had not already been mailed. Another copy of the questionnaire was enclosed in case the first had been lost or destroyed.

SAMPLE: Replies were received from 29 of the 35 program directors, while 6 did not reply to either the initial or the follow-up mailout. However, 2 of the 29 replies had to be eliminated from the study because the program director at one institution reported that CASSIP had not, as yet, become operational on campus and the other program director refused to

answer the questions due to personal reservations about such research. Thus 27 usable questionnaires were available for analysis--an effective response rate of 77.1 percent.

The 27 institutions included 13 universities, 8 senior colleges, 5 community junior colleges, and 1 technical institute. The total enrollment at these 27 institutions ranged from 380 to 30,600 students--14 reporting under 2,500, 9 reporting between 2,500 and 10,000, and 4 reporting over 10,000 students. As reported by the program directors, 44.4% of the programs were operated by the counseling office, 48.4% by the learning assistance office, 14.8 by the special services office, and 25.9% by academic departments or special courses. The 133.2% total indicates that many of the programs were being operated jointly. Finally, the 27 program directors reported that a total of 4,495 students had used the program--4.2% high school seniors, 60.9% college freshmen, and 34.8% other college students.

FINDINGS

The responses received from the 27 program directors were tabulated and converted into percentages. These results are reported in Tables 1-6. Table 1 reports the hardware and software problems encountered in setting up and operating the program. Scheduling problems resulting from the shortage of computers and/or modules was reported to be the major problem encountered. However, motivating the academically poorer student to try the recommended procedures was also reported to be a problem on some campuses.

Table 1

OPERATIONAL PROBLEMS REPORTED BY THE PROGRAM DIRECTORS

Hardware Problems Reported by Program Directors	Percent
"Not enough computers available for program"	37.0
"Restricted/shared access to computer time"	11.1
Software Problems Reported by Program Directors	**Percent**
"Scheduling student use of individual modules"	25.2
"Motivating the academically poorer student"	11.1
"Control/protection/storage of the modules"	7.4
"Student failure to follow specific directions"	7.4
"Modules do not provide record keeping capability"	7.4
"Modules provide for minimal response branching"	7.4

Table 2

APPROACHES EMPLOYED TO PUBLICIZE PROGRAM AVAILABILITY

Method Employed	Percent
Announcements to faculty/staff at appropriate meetings	70.4
Information sent to faculty advisors via written memo	40.7
Stories about program published in student newspaper	29.6
Demonstration workshops for interested faculty/staff	25.9
Information in pre-registration packet sent students	25.9
Posters placed at appropriate locations on campus	22.2
Information in material sent to prospective students	22.2
Information in material sent to high school counselors	22.2
Announcements made in orientation meetings/classes	22.2
Stories about program published in local newspapers	11.1
Stories about program aired over local radio and TV	7.4
Stories about program in faculty bulletin/newsletter	7.4
Stories about program in newsletter for alumni/alumnae	7.4

The various approaches employed to publicize the program are reported in Table 2. The most intensive effort was made to inform faculty and staff about the program. Information about the program was disseminated to faculty and staff by means of announcements at appropriate meetings, written memos about program goals, and workshops demonstrating program materials. A less intensive effort was made to inform students about program availability. Information about the program was disseminated to students through stories published in the student newspaper, posters placed at strategic campus locations, material included in packets sent to prospective students or in pre-registration packets, and announcements made in orientation meetings and classes. Relatively little effort was made to publicize the program off campus other than by sending appropriate information to high school counselors.

The campus sources referring students to the program are reported in Table 3. Over half of the program directors reported receiving student referrals directly from facluty advisors and course instructors. This finding suggests that strong faculty support exist$ for systematic and effective study skills instruction. Guidance counselors and learning assistance specialists were also reported to be making direct referrals by more than half of the program directors. Also, 48.1% of the programs reported a significant level of voluntary self-referral by the students themselves. This finding suggests that many students recognize the need to improve

Table 3

CAMPUS SOURCES REFERRING STUDENTS TO THE PROGRAM

Source of Referral	Percent
Guidance Counselors	55.6
Learning Assistance Specialists	51.9
Faculty Advisors	51.9
Course Instructors	51.9
Voluntary Self-Referral	48.1
Special Services Staff	22.2
Dormitory Staff	7.4
Other Campus Sources	7.4

Table 4

STUDENT COMMENTS REPORTED BY THE PROGRAM DIRECTORS

Positive Student Comments Reported	Percent
"Program is informative/helpful/worthwhile"	22.2
"Receiving immediate feedback is very helpful"	14.8
"Appreciate working/learning at own pace"	11.1
"Interesting/enjoyable/motivating experience"	11.1
"Students need this material much earlier"	11.1
"Notetaking is more accurate and more meaningful"	11.1
"Material is presented with step-by-step clearness"	7.4
"Interacting with computer checks one's learning"	7.4
"Computer is never critical or impatient"	7.4
"Can stay with material until it is understood"	7.4
"Ideas are presented in easy to understand units"	7.4
"Computer is impartial and treats everyone alike"	7.4
"Can stop when tired or bored and return later"	7.4

Negative Student Comments Reported	Percent
"Having difficulty in applying the concepts"	14.8
"Need follow-up reinforcement of module content"	14.8
"Unable to go backwards in the modules"	11.1
"It takes too long to complete a module"	11.1
"Content of modules is too elementary"	7.4

Table 5

PROGRAM DIRECTOR EVALUATION OF EACH MODULE'S EFFECTIVENESS IN HELPING STUDENTS IMPROVE THEIR STUDY SKILLS AND ACADEMIC ATTITUDES

Study Skills Module	RATED EFFECTIVENESS Very Good	Good	Unsure	Poor	Very Poor
Managing Time	33.3	58.3	8.3	0.0	0.0
Improving Memory	25.0	45.8	25.0	0.0	4.2
Taking Lecture Notes	44.0	40.0	16.0	0.0	0.0
Reading Textbooks	38.5	46.2	15.4	0.0	0.0
Taking Examinations	48.0	44.0	4.0	4.0	0.0
Writing Themes and Reports	13.6	45.5	35.4	4.5	0.0
Making Orial Reports	17.4	52.2	30.4	0.0	0.0
Improving Scholastic Motivation	26.1	34.8	39.1	0.0	0.0
Improving Interpersonal Relations	17.4	34.8	43.5	4.3	0.0
Improving Concentration	26.1	52.2	17.4	4.3	0.0
AVERAGE	28.9	45.4	23.6	1.7	0.4

their study skills and are willing to take effective steps to achieve the needed improvement.

Positive and negative student comments frequently heard by the program directors are reported in Table 4. On the positive side, many of the students reported feeling that the program was helpful and worthwhile and that the experience had been interesting and motivating. Others stated that students need study skills instruction much earlier and that the program is focused on important problems. The negative comments appear to reflect student frustration in the amount of time and effort required to master the concepts and methods being presented. However, while a few students reported finding the module content to be too elementary, many more stated that they needed follow-up reinforcement of module content to

Table 6

OVERALL ASSESSMENT OF PROGRAM MADE BY PROGRAM DIRECTORS

STATEMENT	AGREEMENT LEVEL SA	A	U	D	SD
The topics presented in the modules are adequately covered.....	29.6	59.3	11.1	0.0	0.0
The concepts and methods covered in the modules are presented clearly...	40.7	48.1	11.1	0.0	0.0
Students enjoy learning efficient study methods from a computer.....	51.9	29.6	14.8	3.7	0.0
Students like being able to work at their own pace while learning.....	55.6	40.7	3.7	0.0	0.0
Students like immediate feedback as provided by the module tests.....	44.4	48.1	7.4	0.0	0.0
Students like having a workbook to guide notetaking from the modules...	29.6	37.0	25.9	7.4	0.0
Students learn more by doing these modules than from reading a book....	48.1	25.9	18.5	7.4	0.0
Students are applying the concepts and methods in their courses.....	11.1	37.0	51.9	0.0	0.0
Use of the modules is recommended if students need how-to-study help.....	51.9	44.4	3.7	0.0	0.0

SA = Strongly Agree A = Agree U = Undecided or Unsure D = Disagree SD = Strongly Disagree

offset difficulties in mastering the concepts and methods.

Each module's effectiveness in helping students improve their study skills and academic attitudes, as evaluated by the 27 program directors, is reported in Table 5. The average of the combined ratings received for all ten modules is also reported in this table. The combined ratings for all ten modules were 28.9% Very Good, 45.4% Good, 25.6% Uncertain or Unsure, 1.7% Poor, and 0.4% Very Poor. The module receiving the highest helpfulness rating was Taking Examinations (ET), followed by Taking Lecture Notes (NT), Managing Time (TM), Reading Textbooks (TR), and Improving Concentration (CI). All of

Table 7

ADVANTAGES OF COMPUTER-ASSISTED STUDY SKILLS COUNSELING

1. The counselee may proceed at his own pace without feeling hurried or slowed by the learning rate of others.

2. The counselee can take notes from the computer that are likely to be more complete, accurate and meaningful.

3. The counselee may take breaks at any time or may exit the program and continue it at a more appropriate time.

4. The counselee may readily review information presented as much as in needed to assure mastery of the material.

5. The computer is never judgmental, impatient, or critical of the counselee's appearance or behavior.

6. The computer never omits important material due to being rushed, forgetful, or inadequately prepared.

7. The computer stays on the subject during the session and does not digress to unrelated material.

8. The computer facilitates understanding because material is presented in smaller units that are easier to absorb.

9. The computer is always consistent in its presentation of concepts or its response to counselee input.

10. The computer is always objective and never shows favoritism or prejudice toward the counselee.

11. The computer can provide the counselee with instantaneous feedback on understanding of concepts being presented.

12. The computer provides an interactive experience that most counselees readily accept once confidence is acquired.

13. The computer will work unlimited hours without becoming tired, bored, careless, or ill-tempered.

14. The computer can store large amounts of information that may be quickly recalled and manipulated as required.

15. The computer provides flexible editing that permits quick and easy updating and correction of stored information.

16. The computer can organize, analyze, and summarize large quantities of data very quickly and accaurately.

17. The computer is very cost effective once initial hardware and software costs have been paid.

Table 8

DISADVANTAGES OF COMPUTER-ASSISTED STUDY SKILLS COUNSELING

1. The counselee may accept information obtained from a computer program without questioning its validity.

2. The counselee may act upon suggestions offered by a computer program without seeking help in their evaluation.

3. The computer is impersonal and lacks such human qualities as empathy, concern, warmth and feeling.

4. The computer is insensitive to counselee needs, moods and concerns because it has no experience in such things.

5. The computer is inflexible in that it can only respond to counselee input as it has been programmed to respond.

6. The computer has a limited capacity for providing individualized responses appropriate to different counselees.

7. The computer cannot make judgments as to the integrity of counselee input because it cannot think for itself.

8. The computer may permit too easy access to confidential information unless files are appropriately protected.

9. The computer utilizes software that requires programming skills rarely possessed by counselors.

10. The computer does not allow for the multiple interactive capability required for effective group counseling.

11. The start-up hardware and software costs to properly support computer-assisted counseling may exceed resources.

these modules received ratings averaging 4.01 to 4.36 on a 5-point scale. Improving Interpersonal Relations (IR) was the module rated as least effective in helping students improve their study skills and academic attitudes, followed by Writing Themes and Reports (RW), Making Oral Reports (OR), Improving Memory (MI) and Improving Scholastic Motivation (SM). All of these modules received ratings averaging 3.65 to 3.89 on a five-point scale. It should be noted, however, that the number of Good and Very Good ratings greatly exceeded the number of Poor and Very Poor ratings. Thus, for each Very Poor rating, there were 72 Very Good ratings assigned. The ratio of Good ratings to Poor ratings, 27 to 1, is likewise striking.

Table 6 reports the overall program assessment made by the 27 program directors, as revealed by their agreement with 9 specific statements about the program. The data indicates that over one-half of the program directors were unsure that the students were actually using these new study skills in their courses. However, 96.3% of the program directors recommended the modules for students needing help with their study skills. As in Table 5, the number of negative ratings was greatly exceeded by the number of positive ratings.

SUMMARY AND CONCLUSIONS

A four-page, three-part questionnaire was mailed to 35 program directors approximately 6-months after the Computer-Assisted Study Skills Improvement Program (CASSIP) had been shipped to their respective campuses. Usable questionnaires were returned by 27 of the 35, for a 77.1 percent response rate. The questionnaire responses were tabulated, converted into percentages, and the results organized into tables. The results of these analyses are reporeted in Tables 1-6.

A comprehensive picture of the potential advantages and disadvantages of computer-assisted counseling has emerged from the questionnaire data supplied by the 27 experienced program directors. The 17 identified advantages and 11 identified disadvantages for this type of program are listed in Tables 7 and 8, respectively. Do the potential advantages outweigh the potential disadvantages? It would appear that the 27 experienced program directors have concluded that they do.

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The authors wish to thank the following graduate students enrolled during the 1985 Spring Semester in Ed. 5391C, Research in Counseling and Guidance, at Southwest Texas State University, San Marcos, Texas, for their help in collecting and analyzing the data upon which this report is based: Donald Haughey, Maria Herrera, Lyllette Hester, and David Janzen.